Claims

What is claimed is:

1. A method of constructing an air/water cooled rack mounted electronics apparatus comprising:

providing a rack unit including a plurality of removable drawer units each containing an electronic unit, each removable unit having an air-moving device for directing air through the drawer unit, said drawers and said rack having front and rear airflow openings;

mounting a sub-frame on a side of said rack, said rack and said sub-frame forming an extended frame assembly, said sub-frame including an air-to-liquid heat exchanger at an oblique angle to the removable drawer units;

coupling a front cover to said extended frame assembly so that said front cover can be swung open to reveal the front of the drawer units, said front cover in airflow communication with said rack front opening and said sub-frame when said front cover is in a closed position;

coupling a back cover to said extended frame assembly so that said back cover can be swung open to reveal the back of the drawer units, said back cover in airflow communication with said rack rear opening and said sub-frame when said back cover is in a closed position;

whereby a closed air flow loop is created by the drawer units, back cover, sub-frame, and front cover.

2. The method of claim 1, wherein said providing, mounting, and coupling are performed at an existing rack installation.

3. The method of claim 1, further comprising providing at least one auxiliary air moving device within said sub-frame.

4. The method of claim 3, further comprising:

providing a plurality of vent panels within said front cover; and

providing an automatic latch mechanism having an over-temperature condition trigger.

5. The method of claim 3, further comprising:

providing a plurality of vent panels within said back cover; and

providing an automatic latch mechanism having an over-temperature condition trigger.

6. The method of claim 1, further comprising providing sound-absorbing filler material within said front cover and said back cover.

7. The method of claim 1, wherein

said coupling a front cover comprises hinging said front cover at one corner of said extended frame assembly; and

said coupling a back cover comprises hinging said back cover at an opposing corner of said extended frame assembly.

8. The method of claim 7, further comprising providing an automatic latch mechanism having an over-temperature condition trigger, said mechanism allowing said front and back covers to open upon occurrence of an over-temperature condition.

9. The method of claim 8, further comprising:

providing a retaining member connecting said front cover to said extended frame assembly;

providing a retaining member connecting said back cover to said extended frame assembly; and

wherein said retaining members prevent said front and back from opening completely.

10. The method of claim 1, further comprising connecting a coolant supply to said heat exchanger.

11. The method of claim 1, further comprising providing a plurality of casters on an underside of said sub-frame.